GCSE

Information and Communication Technology (Short Course)

45204 / Unit 1 Systems and Applications
Mark scheme

45204
June 2015

V1 Final Mark Scheme

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from aqa.org.uk

1	(a)		C (Microphone) **Correct Answer Only**	1
1	(b)		B (Digital projector) **Correct Answer Only**	1
1	(c)		A (Hard disk) **Correct Answer Only**	1
1	(d)		A (Encryption) **Correct Answer Only**	1
1	(e)		A (Discuss a topic that interests them) **Correct Answer Only**	1
1	(f)		C (Timing) **Correct Answer Only**	1

2	(a)		**Mark as three separate sections.** Start Fd3 Rt90 (Lt270) **(First mark for "Start", "Fd3" and "Rt90" together and in correct order)** Fd5 Lt90 (Rt270) Fd6 Lt90 (Rt270) **(Second mark for "Fd5", "Lt90", "Fd6" and "Lt90" together and in correct order)** Fd4 End **(Third mark for "Fd4" and "End" together, in correct order and in correct position)** **Deduct 1 mark only from total for error such as Fdx3 used instead of Fd3**	3
2	(b)		No room for error, device cannot guess commands/only follow commands/do what its told Slight errors can cause expensive accidents/risk of damage/crash/harm itself/can't be fixed (from far away)/being destroyed Device might not be 'intelligent' and not able to use 'initiative'/can't think/make decisions/adjust errors for themselves Because it won't do what you want it to do/do wrong task/sequence/going wrong Might 'behave' dangerously/harm/hurt humans/someone (outside its normal programmed limits) **Not move or movement only (from question stem 2a)** **Not accurate only (from question stem 2b)** **Any 2x1**	2

3	(a)	(i)	Erasing **Correct Answer Only**	1
3	(a)	(ii)	Morphing **Correct Answer Only**	1
3	(a)	(iii)	Rotating **Correct Answer Only**	1
3	(a)	(iv)	Layering **Correct Answer Only**	1
3	(b)		Change/alter/improve/remove/erase/edit/refine/clear/eliminate/look different/manipulate Unwanted characteristics/imperfections/blemishes/flaws/improve quality **Any 2x1**	2

4	(a)		Compare with other reliable sources **Correct Answer Only**	1
4	(b)		Only checks what is sensible/reasonable Doesn't check what is correct/e.g. people given the wrong name in a database Depends on whether the validation is setup correctly Ranges might be coded inaccurately Can still enter incorrect values within acceptable range **Any 1x1**	1
4	(c)		Look-up list **Correct Answer Only**	1
4	(d)	(i)	Double entry/keying **Not dual** Visual check **Any 1x1**	1
4	(d)	(ii)	**Double Entry** (Data is) entered twice/second time Entered by different operators The copies are compared (by the system)/check if they match Differences identified/highlighted Corrected manually/next version accepted **Visual Check** Re-reading the data/proof reading Checked on screen Checked against the original Users reads and confirms if correct/ mistakes corrected **Allow follow on if 4 (d) (i) incorrect** **However, both marks must come from the same type and must match method named in Q4 (d) (i)** **Any 2x1**	2
4	(e)		Mail merge **Correct Answer Only**	1
4	(f)		Recycle old equipment Sell computers Donate computers (to charity) Upgrade/refurbish/repair computers instead/sustainability Dispose of correctly **Any 2x1**	2

5	(a)	(i)	H (VoIP) **Correct Answer Only**	1
5	(a)	(ii)	F (RFID reader) **Correct Answer Only**	1
5	(a)	(iii)	C (File server) **Correct Answer Only**	1
5	(b)		Limited to available coverage/not all areas have it Other cheaper alternatives/more expensive/costs **a lot** of money Security issues Need to upgrade devices **Any 1x1**	1

6	(a)		Max **Correct Answer Only**	1
6	(b)	(i)	=SUM(B3:E3) **Accept without equals sign** =B3+C3+D3+E3 **Accept =sum(B3+C3+D3+E3)** **Any 1 x1**	1
6	(b)	(ii)	Absolute cell reference needed to allow formula to fill down because grand total cell/**J8** is fixed/same/constant/stays/remains/stops moving Relative cell reference would require each formula to be typed in each time The $ is used to make the column and row fixed/absolute **Any 2 x 1**	2

	No rewardable material 0 marks	
	Lower mark range 1 – 2 marks State/give simple **statement(s)** relating to using online forms rather than paper-based questionnaires.	
6 (c)	**Mid mark range 3 – 4 marks** There is evidence of **some understanding** shown through the use of **mostly correct** examples that **describe** at least one advantage and one disadvantage of using online forms rather than paper-based questionnaires. Examples given are supported by suitable reasoning.	
	High mark 5 marks There is evidence of **clear understanding** shown through the use of **correct** examples that **clearly describe** at least one advantage and one disadvantage of using online forms rather than paper-based questionnaires. Examples given are **well** supported by reasoned arguments.	
	Possible online form advantages - Instant response/not waiting for paper to be returned - Save money on printing and posting/staff/environmentally friendly - Responses entered directly into system/less chance of human error/automated/data validation - More flexible, question order can be adapted depending on responses - IT literate people prefer Internet to writing on paper - No problem reading illegible hand writing (No marks awarded for 'not losing data') **Possible online form disadvantages** - Segments of the population still don't have Internet/computer access - Internet users overloaded with requests to complete and might ignore/not have time - Internet users mistrust requests and may fear a scam/bombarded	
		5

7	(a)		Allow users to report any inaccurate information they see Keep a record of changes made and the names of the users that changed a wiki entry **Correct Answers Only**	2
7	(b)		Wider/bigger audience can be reached – poster might just be up around school Include (hyper)links to audio/video files/websites New posts/information can be: added/adjusted/easily/quickly/updated Readers can leave comments/feedback/opinions/questions **Not cheaper or saves on printing** **Not environmental reasons** **Any 2 x 1 mark**	2

	No rewardable material 0 marks		
	Lower mark range 1 – 2 marks One or two simple **statement(s)** or sensible examples relating to normal or extreme data. Statement(s) relate to the ideas below.		
	Mid mark range 3 – 4 marks There is evidence of **some understanding** shown through the use of **mostly correct** descriptions and examples of the differences between normal and extreme data. At the top end there will be some understanding shown of **both** normal **and** extreme data and their differences.		
7 (c)	**High mark 5 marks** There is evidence of a **good understanding** shown through the use of **correct** descriptions and examples of the differences between normal and extreme data.		
	Possible differences/examples: - Normal data is within the normal **range** - Normal data is what would normally be **expected** to be entered - Normal data will be **accepted** by a system - Suitable **examples** of normal data, such as in an exam out of 100: 10 and 90 would be **normal** data - Extreme data is within the **acceptable** range but close to the **limits** set - Extreme data is on/within the boundary **between** normal and erroneous data - Extreme data is the **highest/lowest** number in the range that the system will accept, on the edge - Suitable examples of extreme data, such as in an exam out of 100: 0 and 100 would be **extreme** data		
			5

Read the full answer first before you start to mark it.	Q8
No rewardable material	**0 marks**
Level 1 Lower mark range **Subject Criterion Context** Simple example(s) supported by no comments limited to the lower end (for example a bulleted list). At the higher end of the mark range there is a simple statement about at **least one** possible way people can behave responsibly or stay safe. **Quality of Written Communication** The candidate has used a form and style of writing which has **many** deficiencies. Ideas are not **often** clearly expressed. Sentences and paragraphs are **often** not well-connected or **at times** bullet points may have been used. Specialist vocabulary has been used **inappropriately** or **not at all**. **Much** of the text is **legible** and **some** of the meaning is **clear**. There are **many** errors of spelling, punctuation and grammar but it should still be possible to understand **much** of the response.	**1-3 marks**
Level 2 Lower mid mark range **Subject Criterion Context** There is evidence of **some understanding** shown by considering sensible issues that each briefly considers ways people can behave responsibly and stay safe. At the lower end of this mark range at **least two** points need to be considered. At the higher end of this mark range at **least three** points need to be considered. Examples are supported by limited discussions. **Quality of Written Communication** The candidate has used a form and style of writing which has **some** deficiencies. Ideas are not **always** clearly expressed. Sentences and paragraphs may **not** be well-connected or **at times** bullet points may have been used. Specialist vocabulary has been used on a **limited** number of occasions.	**4-6 marks**

Most of the text is **legible** and **some** of the meaning is **clear**. There are **some** errors of spelling, punctuation and grammar but it should still be possible to understand **most** of the response.	
Level 3 Higher mid mark range **Subject Criterion Context** There is evidence of a more **developed understanding** shown by **discussing** sensible issues that each look at possible ways people can behave responsibly and stay safe. At **least four** points need to be considered. Examples are supported by discussions. **Quality of Written Communication** The candidate has **mostly** used a form and style of writing **appropriate** to purpose and has expressed some complex ideas **reasonably clearly** and **fluently**. The candidate has usually used **well linked** sentences and paragraphs. Specialist vocabulary has been used on a number of occasions but **not always appropriately.** Text is **legible** and **most** of the meaning is **clear**. There are **occasional** errors of spelling, punctuation and grammar.	**7-9 marks**
Level 4 High mark range **Subject Criterion Context** There is evidence of a **clear understanding** shown by **clearly** discussing sensible issues that each look at possible ways people can behave responsibly and stay safe. At **least four** points need to be considered. Examples are well supported by reasoned discussions. **Quality of Written Communication** The candidate has selected and used a form and style of writing **appropriate** to purpose and has expressed complex ideas **clearly** and **fluently**. Sentences and paragraphs follow on from one another clearly and coherently. Specialist vocabulary has been used **appropriately** throughout. Text is **legible** and the meaning is **clear**. There are **few** if any errors of spelling, punctuation and grammar.	**10-12 marks**

Quality of Written Communication Skills The candidate's quality of written communication skills will be one of the factors influencing the actual mark an examiner will give within a level of response. The quality of written communication skills associated with each level is indicated above.	
Possible issues of responsible behaviour/staying safe • Nondisclosure of personal info • Use privacy settings/parental controls/passwords • Not forwarding unknown emails/viruses • Being aware of phishing • Not clicking 'unknown' links • Not meeting people from chat rooms/being aware of grooming/paedophiles/only talk to people you know • No inappropriate webcam use • Not Cyberbullying • Not accessing pornography • Think before trolling/posting a comment/picture/digital footprint/online 'forever' • Plagiarism/crediting owners • No illegal downloading • Follow digital etiquette` **Accept other sensible answers.**	

Read the full answer first before you start to mark it.	Q9
No rewardable material	**0 marks**
Level 1 Lower mark range **Subject Criterion Context** Simple example(s) supported by no comments limited to the lower end (for example a bulleted list). At the higher end of the mark range there is a simple statement about at **least one** possible way of limiting authorised access. **Quality of Written Communication** Specialist vocabulary has been used **inappropriately** or **not at all**. **Much** of the text is **legible** and **some** of the meaning is **clear**. There are **many** errors of spelling, punctuation and grammar but it should still be possible to understand **much** of the response.	**1-3 marks**
Level 2 Lower mid mark range **Subject Criterion Context** There is evidence of **some understanding or use** shown by giving examples of at **least two** reasonably valid brief **discussions** of unauthorised access. Examples are supported by limited discussions. **Possible ways of preventing are only briefly considered.** **Quality of Written Communication** The candidate has used a form and style of writing which has **some** deficiencies. Ideas are not **always** clearly expressed. Sentences and paragraphs may **not** be well-connected or **at times** bullet points may have been used. Specialist vocabulary has been used on a **limited** number of occasions. **Most** of the text is **legible** and **some** of the meaning is **clear**. There are **some** errors of spelling, punctuation and grammar but it should still be possible to understand **most** of the response.	**4-6 marks**

Level 3 Higher mid mark range	**7-9 marks**
Subject Criterion Context	
There is evidence of a more **developed understanding** shown through the use of **suitable** examples that at the bottom end **discuss** at **least three** types of unauthorised access and ways of preventing.	
At the top end, **discuss** at **least four** types of unauthorised access and ways of preventing.	
Examples are supported by suitable discussions.	
Possible preventions are discussed.	
Quality of Written Communication	
The candidate has **mostly** used a form and style of writing **appropriate** to purpose and has expressed some complex ideas **reasonably clearly** and **fluently**. The candidate has usually used **well linked** sentences and paragraphs.	
Specialist vocabulary has been used on a number of occasions but **not always appropriately.**	
Text is **legible** and **most** of the meaning is **clear**. There are **occasional** errors of spelling, punctuation and grammar.	
Level 4 High mark range	**10-12 marks**
Subject Criterion Context	
There is evidence of a **clear understanding** shown through the use of at least **four relevant** examples that **discuss** types of unauthorised access and ways of preventing.	
Examples are well supported by reasoned arguments.	
Possible preventions are clearly discussed.	
Quality of Written Communication	
The candidate has selected and used a form and style of writing **appropriate** to purpose and has expressed complex ideas **clearly** and **fluently**. Sentences and paragraphs follow on from one another clearly and coherently.	
Specialist vocabulary has been used **appropriately** throughout.	
Text is **legible** and the meaning is **clear**. There are **few** if any errors of spelling, punctuation and grammar.	

Quality of Written Communication Skills The candidate's quality of written communication skills will be one of the factors influencing the actual mark an examiner will give within a level of response. The quality of written communication skills associated with each level is indicated above.	
Preventing unauthorised access: • User **accounts/**profiles • **Passwords/**pin codes – reasons for • Passwords/pin codes **good practice** • **Levels** of access • Security **questions** • **Firewalls** • Secure socket layer **(SSL)** authentication • **HTTPS -** secure payment • **Anti-virus/Trojans** • RSA certificates – **encryption** • **Locks** • **Alarms** • **CCTV** • **Biometrics** • **Security guards** **Accept other sensible answers.**	